

# Exhibit B



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EXAMINER
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GELLNER, JEFFREY L

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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ACUSHNET COMPANY  
Requester

v.

Patents of CALLAWAY GOLF COMPANY  
Patent Owner

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Appeals 2010-012258; 2011-001247; 2011-001248; & 2011-001255  
Reexamination Controls 95/000,122; 95/000,120; 95/000,121; & 95/000,123  
Patents 6,506,130 B2; 6,210,293 B1; 6,503,156 B1; & 6,595,873 B2  
Technology Center 3900

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Before JAMESON LEE, ROMULO H. DELMENDO, and  
DANIEL S. SONG, *Administrative Patent Judges*.

DELMENDO, *Administrative Patent Judge*.

The Patent Owner appeals from the Examiner's final decision to reject certain claims in each of the above-identified *inter partes* reexamination proceedings. The Requester, a third-party under 35 U.S.C. § 315(b)(2), agrees with the Examiner's rejections. We have jurisdiction under 35 U.S.C. §§ 134 and 315.

For reasons discussed below, we AFFIRM as to all claims in all four proceedings, except for claims 1-3 and 6 in 95/000,122 (Appeal 2010-012258; United States Patent 6,506,130 B2), which we do not reach.

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Reexamination Control 95/000,122; 95/000,120; 95/000,121; & 95/000,123  
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## STATEMENT OF THE CASE

This decision consolidates the appeals arising from the *inter partes* reexamination of four patents owned by Callaway claiming closely-related subject matter.<sup>1</sup> These patents have been asserted in concurrent district court civil litigation involving the Patent Owner and the Requester, and, on appeal from the district court, the United States Court of Appeals for the Federal Circuit has already issued an opinion on certain issues. *Callaway Golf Co. v. Acushnet Co.*, 576 F.3d 1331 (Fed. Cir. 2009).

We heard oral arguments from both parties on January 19, 2011, a written transcript of which will be entered into the electronic record in due course. At that hearing, the Patent Owner's counsel requested that we focus our attention to claims that are limited to an outer cover layer comprising polyurethane, in particular claim 1 of the '293 Patent (Appeal 2011-001247), and agreed to withdraw the appeal as to all claims in all four proceedings that do not recite the polyurethane limitation (Hr'g. Tr. 12-14). Because claims 1-3 and 6 of the '130 Patent do not recite polyurethane, the Patent Owner has withdrawn the appeal from the Examiner's rejection as to these claims. Additionally, in view of the Patent Owner's reliance on the same or

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<sup>1</sup> The four patents are: United States Patents 6,506,130 B2 ("130 Patent"); 6,210,293 B1 ("293 Patent"); 6,503,156 B1 ("156 Patent"); and 6,595,873 B2 ("873 Patent"), all naming Michael J. Sullivan as the sole inventor and having the same written description (collectively the "Sullivan patents"). For simplicity, our citations to the written description will be limited to the '293 Patent.

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similar arguments based on the same or similar claim limitations in all four patents, we select claim 1 of the ‘293 Patent as representative of the claims on appeal and confine our discussion of the dispositive issues to this selected claim. *Cf.* 37 C.F.R. §§ 41.67(c)(1)(vi) and 41.67(c)(1)(vii).

The Sullivan patents relate to a golf ball comprising a multi-layer cover over a core, the cover having “a comparatively hard inner layer and a relatively soft outer layer such as that produced by the use of a polyurethane based outer layer” (‘293 Patent at col. 1, ll. 12-16). According to the Sullivan patents, the “golf balls provide for enhanced distance and durability properties over single layer cover golf balls while at the same time offering enhanced ‘feel’ and spin characteristics generally associated with soft balata and balata-like covers of the prior art” (‘293 Patent at col. 1, ll. 16-22).

Claim 1 of the ‘293 Patent reads as follows:

1. A golf ball comprising:
  - a core;
  - an inner cover layer having a Shore D hardness of 60 or more molded on said core, said inner cover layer having a thickness of 0.100 to 0.010 inches, said inner cover layer comprising a blend of two or more low acid ionomer resins containing no more than 16% by weight of an alpha, beta-unsaturated carboxylic acid; and
  - an outer cover layer having a Shore D hardness of 64 or less molded on said inner cover layer, said outer cover layer having a thickness of 0.010 to 0.070 inches, and said outer cover layer comprising a relatively soft polyurethane material.

(Claims App’x, Patent Owner’s Appeal Brief filed July 8, 2010, hereinafter “PO App. Br.,” 31.)

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The Examiner relied upon, inter alia, the following prior art references as evidence of unpatentability (Examiner's Answer mailed September 3, 2010, hereinafter "Ans.," which incorporates by reference the Right of Appeal Notice mailed July 31, 2009, hereinafter "RAN"; Requester's Respondent Brief filed August 6, 2010, hereinafter "Req. Resp. Br.):

Molitor	4,274,637	June 23, 1981
(Molitor '637)		
Molitor	4,674,751	June 23, 1987
(Molitor '751)		
Nesbitt	4,431,193	Feb. 14, 1988
Proudfit	5,314,187	May 24, 1994
Wu	5,334,673	Aug. 2, 1994

The Examiner rejected the claims of the '293 Patent reexamination proceeding as follows:

- I. Claims 1-8 under 35 U.S.C. § 102(b) as anticipated by Nesbitt (RAN 4);
- II. Claims 1-8 under 35 U.S.C. § 103(a) as unpatentable over Nesbitt in view of Molitor '637 (RAN 4);
- III. Claim 1-8 under 35 U.S.C. § 103(a) as unpatentable over Nesbitt in view of Wu (RAN 4);
- IV. Claims 1-8 under 35 U.S.C. § 103(a) as unpatentable over Nesbitt in view of Molitor '751 (RAN 4);

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- V. Claims 1, 2, 4, 5, 7, and 8 under 35 U.S.C.  
§ 103(a) as unpatentable over Proudfit in view of  
Wu (RAN 4);
- VI. Claims 1, 2, 4, 5, 7, and 8 under 35 U.S.C.  
§ 103(a) as unpatentable over Proudfit in view of  
Molitor '751 (RAN 5);
- VII. Claims 9-16 under 35 U.S.C. § 103(a) as  
unpatentable over Nesbitt in view of Molitor '751  
(RAN 5);
- VIII. Claims 9-16 under 35 U.S.C. § 103(a) as  
unpatentable over Nesbitt in view of Molitor '637  
and Molitor '751 (RAN 5);
- IX. Claims 9-16 under 35 U.S.C. § 103(a) as  
unpatentable over Nesbitt in view of Wu and  
Molitor '751 (RAN 5);
- X. Claims 9, 10, 12, 13, 15, and 16 under 35 U.S.C.  
§ 103(a) as unpatentable over Proudfit in view of  
Molitor '637 and Molitor '751 (RAN 6);
- XI. Claims 9, 10, 12, 13, 15, and 16 under 35 U.S.C.  
§ 103(a) as unpatentable over Proudfit in view of  
Wu and Molitor '751 (RAN 6); and

Appeals 2010-012258; 2011-001247; 2011-001248; & 2011-001255  
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XII. Claims 9, 10, 12, 13, 15, and 16 under 35 U.S.C.  
§ 103(a) as unpatentable over Proudfit in view of  
Molitor ‘751 (RAN 6).

The Examiner rejected the claims in the other three reexamination proceedings on the same or similar grounds (Ans. 6-133 in 2010-012258; RAN 4-6 in 2011-001248; and RAN 7-9 in 2011-001255). In particular, all of the claims on appeal in the other three reexamination proceedings were rejected under 35 U.S.C. § 103(a) as unpatentable over, inter alia, Nesbitt in view of Molitor ‘637 (Ans. 50-52, 55-60 in 2010-012258; RAN 4-5 in 2011-001248; RAN 8 in 2011-001255).

## ISSUES

The Requester asserted that the broadest reasonable construction of the expression “Shore D hardness” recited in claim 1 of the ‘293 Patent “encompasses hardness measurements either on or off the ball” (i.e., measured on the intermediate or final golf ball as produced or measured on a standardized plaque of the specified polymer in strict accordance with ASTM D-2240) (Requester’s Respondent Brief filed August 6, 2010, hereinafter “Req. Resp. Br.,” 8). The Requester also asserted that Nesbitt discloses the recited blend of two or more low acid ionomer resins as an inner cover layer material and a polyurethane foam as an outer cover layer material as suitable options (Req. Resp. Br. 7). The Requester further contended that in view of Nesbitt’s teaching that the outer cover layer should have about the same thickness and hardness of conventional balata-covered



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golf balls, which has an “‘on the ball’ Shore D hardness in the low 50s,” one of ordinary skill in the art would have understood that Nesbitt teaches an outer cover layer having an “on the ball” Shore D hardness within the range recited in claim 1 of the ‘293 Patent (Req. Resp. Br. 8). Given these facts, the Requester argued that the Patent Owner failed “to show that the inherent properties of the materials found in Nesbitt and Molitor ‘637 would not fall within the claimed ranges, even under its inappropriately narrow claim construction [of “Shore D hardness” being limited to values measured “on the ball”] (Req. Resp. Br. 10). As to secondary considerations, the Requester asserted that the Patent Owner’s relied-upon evidence was properly found unpersuasive because, inter alia, it “lacks nexus to the claims” (Req. Resp. Br. 16).

The Examiner agreed with the Requester (Ans., incorporating by reference RAN at 15). Specifically, the Examiner found that Nesbitt teaches a golf ball comprising a core, an inner cover layer, and an outer cover layer that may be made of the same materials in substantially the same thicknesses recited in claim 1 (RAN 22-27). According to the Examiner, “[s]ince Nesbitt references the Molitor ‘637 patent, one of ordinary skill would logically look at its complete disclosure which includes the use of polyurethane as an outer cover” (RAN 30). Based on these findings, the Examiner reasoned that the cover layers of the golf ball suggested in the prior art would reasonably appear to possess the same Shore D hardness values recited in claim 1 and that the Patent Owner failed to show otherwise (RAN 14, 22-27). As to secondary considerations of nonobviousness, the

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Examiner found the evidence unpersuasive because it was largely based on opinion testimonies that were not based on objective evidence (e.g., data) sufficient to establish nonobviousness of the claimed subject matter (RAN 320).

The Patent Owner counters that our reviewing court “has already held that the ‘293 patent claims require measuring Shore D hardness ‘on the ball’” and that “[n]one of the prior art references upon which the Examiner relies, either alone or in combination with each other, describes or suggests golf balls having Shore D hardness values, measured on the ball, that are recited in claims 1-6” (PO App. Br. 5). As to obviousness based on Nesbitt and Molitor ‘637, the Patent Owner contends that the prior art combination “creates a large number of hypothetical combinations of materials to try for the inner and outer cover layers” and that “[t]he specific combination of a low acid ionomer inner cover layer and a polyurethane outer cover layer is only one among many of these hypothetical combinations” (PO App. Br. 16). According to the Patent Owner, golf ball design is “unpredictable” (Patent Owner’s Rebuttal Brief filed October 4, 2010 at 5-6; PO App. Br. 10-11). Additionally, the Patent Owner asserts that the “MacKnight Declaration [proffered by Requester] ... is flawed for a number of reasons” because, inter alia, “it improperly picks and choose among the various theoretical possibilities in Nesbitt plus Molitor ‘637 to arrive at the single combination set forth in the ‘293 claims” and Molitor ‘637 “further states that layers having thicknesses less than 0.06 inch cannot be prepared by injection molding” (PO App. Br. 9). Furthermore, the Patent Owner argues

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that the Examiner ignored overwhelming secondary considerations of nonobviousness in direct conflict with controlling legal authority (PO App. Br. 10-15).

Thus, the dispositive issues are:

(1) Do the teachings of Nesbitt and Molitor '637 provide a sufficient reason for a person of ordinary skill in the art to select the same materials in the same thicknesses for the inner and outer cover layers as recited in claim 1 of the '293 Patent in the production of a golf ball?

(2) Assuming that the Patent Owner's construction of the term "Shore D hardness" is correct and the hardness is measured "on the ball," does the evidence provide a reasonable basis upon which to believe that a golf ball made of an inner cover layer of a blend of two or more low acid ionomer resins and an outer cover layer of polyurethane foam, in accordance with the teachings of the prior art, would inherently or necessarily possess Shore D hardness values within the ranges recited in claim 1 of the '293 Patent?

(3) If so, did the Patent Owner offer objective evidence (e.g., experimental data) to show otherwise?

(4) Did the Patent Owner provide evidence sufficient to demonstrate any criticality for the ranges recited in claim 1 of the '293 Patent?

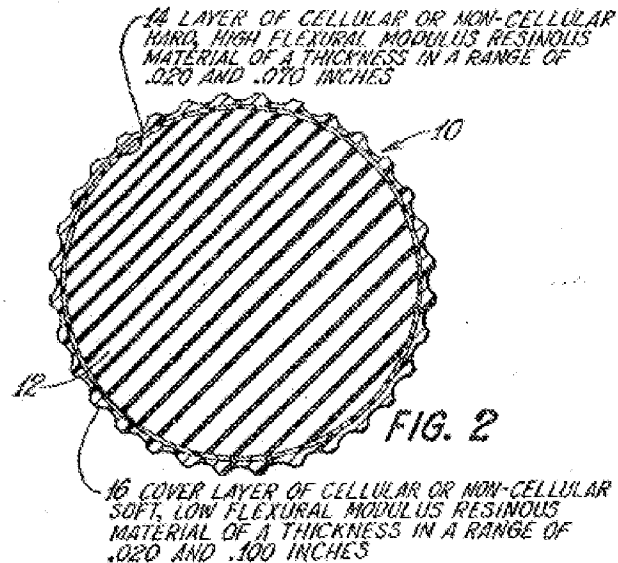
(5) Did the Patent Owner establish a nexus between the claimed features including the recited ranges and any secondary indicia of nonobviousness sufficient to rebut the prima facie case?

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#### FINDINGS OF FACT (“FF”)

1. Nesbitt teaches that two-piece golf balls comprising a hard, high flexural SURLYN resin (E. I. du Pont de Nemours & Co., Inc.) molded over a resilient core exhibiting high coefficient of restitution has been known but that such balls do not have the “feel” or playing characteristics associated with balata-covered golf balls (col. 1, ll. 5-33).
2. To fulfill the need for a golf ball with a balance of high coefficient of restitution and “feel,” Nesbitt describes a multilayer or two-ply cover construction for a solid resilient core, wherein the multilayer cover construction includes a first layer or ply of a molded hard, highly flexural modulus resinous material or cellular or foam composition having a high coefficient of restitution and a second cover layer of a comparatively soft, low flexural modulus resinous material or cellular or foam composition molded over the first layer and core assembly (col. 1, ll. 36-56).
3. Specifically, Nesbitt’s Figure 2, reproduced below, shows such a golf ball 10:

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Nesbitt's Figure 2 above depicts a golf ball 10 with a core 12, a first layer or inner cover 14 of molded hard, highly flexural modulus resinous material with a thickness of 0.020 to 0.070 inch, and an outer layer 16 of comparatively soft, low flexural modulus resinous material with a thickness of 0.020 to 0.100 inch (col. 2, ll. 30-49; col. 3, ll. 16-25).

4. Nesbitt teaches that a suitable inner layer 14 of hard, high flexural modulus includes SURLYN 1605 (col. 2, ll. 34-38).
5. In discussing an exemplary soft, low flexural modulus SURLYN 1855 as the outer cover layer 16 with a thickness of 0.0575 inch, Nesbitt suggests that the outer cover layer 16 "would have about the same thickness and [S]hore hardness of

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a balata covered golf ball and would have the advantageous  
‘feel’ and playing characteristics of a balata covered golf ball”  
(col. 3, ll. 34-44).

6. The ‘293 Patent indicates that a golf ball with a balata outer cover has an “on the ball” Shore D hardness of 55 (Table 7, Samples 15 and 16).
7. R. Dennis Nesbitt, the inventor named in the Nesbitt patent, testified that balata covered golf balls had an “on the ball” Shore D hardness of 50 to 55 (Dep. Tr. of R. Dennis Nesbitt dated April 11, 2007, Req. Ex. 022, at 119-122).
8. For a list of other suitable materials as layer 14 and layer 16, Nesbitt refers to the disclosure of Molitor ‘637 (col. 3, ll. 51-61).
9. Nesbitt further teaches (col. 3, ll. 62-68):

The inner, intermediate, or first layer 14 on the core 12 may be preferably partially or only slightly foamed to a low degree so as not to materially affect the coefficient of restitution of the material. The outer or cover layer or second layer 16 may be foamed to a greater degree than the inner, intermediate or first layer 14 as the material of the layer 16 is comparatively soft.
10. Molitor ‘637 describes a non-exhaustive list of 8 classes of polymers in addition to SURLYN (col. 3, ll. 30-35; col. 5, ll. 21-55).

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11. In the working examples, Molitor '637 describes the use of a foamable blend of SURLYN 1605 and SURLYN 1557 as well as a foamable thermoplastic polyurethane identified as ESTANE 58133 sold by B.F. Goodrich Co. as cover layers (col. 14, l. 55 to col. 19, l. 60).
12. William J. MacKnight, a professor in the Polymer Science and Engineering Department at the University of Massachusetts, has submitted an expert declaration for the Requester on the testing of certain golf balls (Req. Resp. Br., Ex. 018, ¶¶ 1-6).
13. The MacKnight Declaration states that BALL\_4 had a core composition substantially the same as that acknowledged in the '293 Patent to be representative of Nesbitt's core, an inner cover layer as described in Example 1 of Molitor '637, and an outer cover layer as described in Example 16 of Molitor '637 (Req. Resp. Br., Ex. 018, ¶¶ 8, 11, 13).
14. The MacKnight Declaration states that a golf ball (BALL\_4) was produced in a manner consistent with Nesbitt's teachings (Req. Resp. Br., Ex. 018, ¶ 20).
15. The MacKnight Declaration reports that BALL\_4 had an "on the ball" Shore D hardness of 61 (Req. Resp. Br., Ex. 018, ¶¶ 29, 33).
16. James R. Proudfit, the named inventor of the Proudfit patent, testified (PO App. Br., Ex. 018 at 15):

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Q: In general, would you say that golf ball design is a predictable art?

A: My experience has been to develop a ball that's been trial and error, not predictable. It's not as – in my opinion it's not a science.

17. Nesbitt testified (PO App. Br., Ex. 018 at 22):

Q: In your experience as a golf ball designer over the years, have you found that golf ball design is a predictable employ?

A: Never predictable, no. You don't know until you try.

Q: What do you mean by that?

A: You play around in the lab. You make examples, and you test it and see if it does what you think it is going to do. If it doesn't, then you go back and make modifications.

18. Chris Cavallaro, the Requester's Senior Product Development Manager, testified (PO App. Br., Ex. 018 at 21):

Q: Right. In your experience as a golf ball designer, is golf ball design a predictable discipline?

A: In my opinion, no.

19. Sullivan, the inventor of the Sullivan patents, testified (PO App. Br., Ex. 018 at 17):

Q: Now, you described in your direct exam that you did a lot of investigation into materials and constructions for use in golf balls, right?

A: Yes.



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Q: And you would agree that making golf balls is a challenging process; right?

A: Yes.

20. William Risen, Professor of Chemistry at Brown University engaged as the Patent Owner's expert witness, testified (PO App. Br., Ex. 018 at 22):

Q: Professor Risen, in your experience designing golf balls, is golf ball design a predictable art?

A: No, it seems to me what I have seen done and participated in makes it a real art. It's very hard to predict what you are going to get until you actually do the experiments.

21. Robert J. Statz, another expert witness for Requester, testified (Req. Resp. Br., Ex. 004 at 660):

Q: In fact, you go on to state, the different combinations of core size and inner cover thickness and outer cover thickness will lead to wildly different performance; isn't that right?

A: Oh, yes, that's true.

22. The Requester stipulated in court that Acushnet's Titleist ProV1 infringed the claims of the patents under reexamination. *Callaway*, 576 F.3d at 1336.

23. Jerry Potter, *New-Generation Ball Shaking Golf to the Core*, USA TODAY, March 14, 2001, reads in part (PO App. Br., Ex. 019; emphases added):

If you believe the players and the buzz around the Tour, the single greatest reason for

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these developments is a new long-flying, easy-to-control golf ball called the Pro V1...

Manufactured by Titleist, a golf equipment company based in Fairhaven, Mass., the Pro V1 is the latest in a generation of *golf balls that have large solid cores, as opposed to the more traditional construction, which involves small cores wrapped by elastic strands.*

The Pro V1 is drawing raves from the pros, many of whom are under contract with Titleist, for providing extra distance on tee shots while still allowing players to control the ball's direction...

The solid-core balls have been popular among recreational golfers for decades, but they were dismissed by pros because the early designs sacrificed control for distance.

Titleist engineers seem to have solved that problem. When the ball was introduced, *PGA Tour star Phil Mickelson dubbed it "The Tour Perfect."*

24. Mickelson gave general praise to Pro V1 in other publications (PO App. Br., Ex. 020 and Ex. 021).
25. Jaime Diaz, *Right on the SEAM*, EQUIPMENT DIGEST, May 2001 suggests (PO App. Br., Ex. 020 at 153) that the new flight characteristics may be attributable to the seam-vertical orientation.
26. Arnold Palmer and others praised Callaway's "Rule 35" golf ball (PO App. Br., Ex. 022).

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27. The Patent Owner's Exhibit 023 discusses the need to improve golf course designs in view of improved equipment, but does not mention the claimed subject matter.
28. The Patent Owner's Exhibits 024 and 025 include generalized advertisements regarding Titleist Pro VI and V1x.
29. The Patent Owner's Exhibit 027 is a magazine advertisement of the Titleist Pro V1 ball.
30. At trial, Gerald M. Bellis (Executive Vice President for Sales and Marketing Worldwide), testified that the sales of Titleist Pro V1 was \$1.5 billion since its introduction in October 2001 (Req. Resp. Br., Ex. 004 at 313-14; Ex. 043, ¶ 1).
31. Edmund Hebert of Acushnet testified that "veneer prototype balls" (polyurethane covered balls) received "surprisingly positive" reaction from players (Req. Resp. Br., Ex. 004 at 1098-99).
32. William E. Morgan, Senior Vice President of Research and Development for Golf Balls at Acushnet, acknowledged that the performance of the Titleist Pro V1 ball "was unlike any golf ball Acushnet had ever made before" (Req. Resp. Br., Ex. 004 at 407).

#### PRINCIPLES OF LAW

"Often, it will be necessary for a court to look to interrelated teachings of multiple patents; the effects of demands known to the design community

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or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.” *KSR Int’l Co. v. Teleflex, Inc.*, 550 U.S. 398, 418 (2007).

“[A] *prima facie* case of obviousness typically exists when the ranges of a claimed composition overlap the ranges disclosed in the prior art.” *In re Peterson*, 315 F.3d 1325, 1329 (Fed. Cir. 2003). Where the claimed ranges involve variables that were known to be result-effective, it is not inventive to discover optimum values unless the ranges have been shown to be unobvious (e.g., unexpectedly critical). *Id.* at 1330 (“The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages.”).

“For objective evidence [of nonobviousness] to be accorded substantial weight, its proponent must establish a nexus between the evidence and the merits of the claimed invention.” *In re GPAC, Inc.*, 57 F.3d 1573, 1580 (Fed. Cir. 1995).

## ANALYSIS

We agree with the Requester that even under the narrower claim construction urged for the term “Shore D hardness” recited in claim 1 of the ‘293 Patent (i.e., “on the ball” Shore D hardness measurements), the Patent

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Owner failed to identify reversible error in the Examiner's obviousness conclusion.

In this case, it is undisputed that Nesbitt discloses a 3-piece golf ball (i.e., a golf ball with a core, an inner cover layer, and an outer cover layer) having a hard, high flexural modulus inner cover layer and a relatively soft, low flexural modulus outer cover layer in the same thicknesses as here claimed to provide a golf ball with a balance of properties including high coefficient of restitution and soft "feel" (FF 1-5, 9). It is also undisputed that Nesbitt explicitly refers to the disclosure of Molitor '637 for various options in the selection of materials suitable as the inner cover and outer cover layers and thus explicitly leads a person of ordinary skill in the art to combine the teachings of the references (FF 8). Significantly, it is also undisputed that the foamable ionomer resin blends and the foamable thermoplastic polyurethane exemplified in Molitor '637 are the same materials that may be used as the inner cover layer and the outer cover layer, respectively, in claim 1 of the '293 Patent (PO App. Br. 16).

Given these facts, we find no error in the Examiner's conclusion that a person of ordinary skill in the art would have found it obvious to select a hard, high flexural modulus material, such as the ionomer blend of SURLYN 1605 and SURLYN 1557 described in Molitor '637, as the inner cover layer and a relatively soft, low flexural modulus thermoplastic polyurethane foam also as described in Molitor '637, as the outer cover layer in order to make Nesbitt's golf ball having the disclosed balance of properties. *KSR* 550 U.S. at 418 ("Often, it will be necessary for a court to

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look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.”).

When these specific materials are selected for the cover layers as suggested in the prior art, “on the ball” Shore D hardness values within the claimed ranges would naturally follow as a necessary consequence of the otherwise obvious selection. *In re Wiseman*, 596 F.2d 1019, 1023 (CCPA 1979) (rejecting the notion that “a structure suggested by the prior art, and, hence, potentially in the possession of the public, is patentable ... because it also possesses an inherent, but hitherto unknown, function [i.e., characteristic] which they [patentees] claim to have discovered.”). *See also Ex parte Obiaya*, 227 USPQ 58, 60 (BPAI 1985) (holding that the recognition of a result flowing naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious).

Indeed, the evidence indicates that the Shore D hardness values would in fact follow (FF 5-7, 12-15). In particular, we credit the MacKnight Declaration as persuasive evidence on this matter (FF 12-15). There, MacKnight states that a golf ball constructed in accordance with Nesbitt having a hard, high flexural modulus material, such as the ionomer blend of SURLYN 1605 and SURLYN 1557 as an inner cover layer, and a relatively soft, low flexural modulus thermoplastic polyurethane foam as the outer

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cover layer, both molded over a core acknowledged in the ‘293 Patent to be representative of Nesbitt’s core, yielded an “on the ball” Shore D hardness value of 61. While the Patent Owner argues that Molitor ‘637 teaches that it is not possible to injection mold layers having less than 0.06 inch (PO App. Br. 9), such argument does not take into account the collective teachings of the prior art references. Here, the Examiner relied on Nesbitt, which indicates that such layer thicknesses may be achieved in the manufacture of 3-piece golf balls (FF 14). “[T]he test for obviousness is . . . what the combined teachings of the references would have suggested to those of ordinary skill in the art.” *In re Keller*, 642 F.2d 413, 425 (CCPA 1981).

We appreciate that a person of ordinary skill would have understood that the multiple options in the selection of suitable polymers for the inner and outer cover layers in Nesbitt would undoubtedly mean that there would be some range of Shore D hardness values for each of the cover layers (based on the differences in polymers) that are not necessarily identical to those recited in claim 1 of the ‘293 Patent. But the overlap between the Shore D hardness values recited in claim 1 and those inherently disclosed in the prior art gives rise to a prima facie case of obviousness. *In re Malagari*, 499 F.2d 1297, 1303 (CCPA 1974) (claimed subject matter rendered prima facie obvious by prior art disclosing a range that touches the claimed range).

In addition to overlapping or touching ranges, Nesbitt discloses that hardness (or softness), together with flexural modulus, is a result-effective variable that affects the coefficient of restitution and “feel” (FF 2). Given this teaching, the selection of appropriate materials to provide the most

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optimum results within the contemplation of Nesbitt's disclosure would have been within the level of ordinary skill in the art. For over fifty years, our reviewing court and its predecessor court has consistently held that the discovery of optimum values of a result-effective variable is within the level of the ordinary skill in the art – even in cases where the claimed range is outside the prior art range, thus creating a prima facie case of obviousness. *See, e.g., In re Aller*, 220 F.2d 454, 456 (CCPA 1955) (claim reciting an aqueous sulfuric acid concentration of 25-70% and a temperature of 40-80°C would have been prima facie obvious over prior art disclosing 10% aqueous sulfuric acid concentration and a temperature of 100°C because it is not inventive to discover the optimum or workable conditions by routine experimentation).

We find unpersuasive the Patent Owner argument that the prior art combination “creates a large number of hypothetical combinations of materials to try for the inner and outer cover layers” and that “[t]he specific combination of a low acid ionomer inner cover layer and a polyurethane outer cover layer is only one among many of these hypothetical combinations” (PO App. Br. 16). Molitor '637 discloses only a limited number of working examples (i.e., preferred cover layers), which include explicit disclosures of the same materials that correspond to those recited in claim 1 of the '293 Patent (FF 10, 11). While it is true Molitor '637 also includes a broader disclosure including 8 classes of polymers, that broader disclosure does not defeat the Examiner's obviousness rejection in view of the specific working examples that are highlighted within Molitor '637.



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*Merck & Co. Inc. v. Biocraft Labs. Inc.*, 874 F.2d 804, 807 (Fed. Cir. 1989)  
("That the '813 patent discloses a multitude of effective combinations does  
not render any particular formulation less obvious.").

We also reject the Patent Owner's argument based on unpredictability  
of the art (PO App. Br. 10-11). As succinctly pointed out by the Requester  
(Req. Resp. Br. 16), the Patent Owner relies on what appear to be general  
questions and answers put forth in a vacuum without any meaningful  
discussion on what a person of ordinary skill in the art would have  
understood or reasonably expected from reading the Nesbitt and Molitor  
'637 disclosures at the time of the claimed invention (FF 16-21). Nesbitt  
and Molitor '637 provide a reasonable expectation that a golf ball having the  
right balance of coefficient of restitution and "feel" can be manufactured by  
following the guidance provided in the collective teachings. Even in the  
unpredictable arts, only a reasonable expectation of success – not absolute  
predictability – is required to establish obviousness under 35 U.S.C. §  
103(a). *In re O'Farrell*, 853 F.2d 894, 904 (Fed. Cir. 1988).

The Patent Owner's argument based on the notion that the Patent  
Owner and the Requester expended "enormous effort" in designing the Rule  
35 and Pro VI golf balls from "Sullivan's initial conception" is equally  
unavailing (PO App. Br. 11). For one thing, the Patent Owner failed to  
establish any connection between "Rule 35" and the claimed invention, as  
pointed out by the Requester (Req. Resp. Br. 17). Furthermore, the amount  
of time and effort expended to design successful commercial products from  
"Sullivan's initial conception" is not particularly helpful in assessing what a

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person of ordinary skill would have understood from reading the disclosures of the applied prior art references.

We next address the Patent Owner's arguments based on industry praise (PO App. Br. 11-12). As the Requester pointed out, the Patent Owner failed to demonstrate a nexus between the relied upon evidence (FF 22-28) and the invention recited in claim 1 of the '293 Patent. *Asyst Techs., Inc. v. Emtrak, Inc.*, 544 F.3d 1310, 1316 (Fed. Cir. 2008) ("While the evidence shows that the overall system drew praise as a solution to a felt need, there was no evidence that the success of the commercial embodiment . . . was attributable to the . . . *only material difference between [the prior art] and the patented invention.*") (citation omitted, emphasis added).

To the contrary, it appears that the performance of the Pro V1 balls may possibly be attributed to features that have no relation to the claim limitations at issue (e.g., core size, core type, or seam orientation) (FF 23, 25). Moreover, the conclusory, generalized statements of the golfers, many of whom were under contract with Acushnet, fail to shed light on what other balls of the prior art, such as those described in Nesbitt having the right balance of coefficient of restitution and "feel," were tested before such statements were made. Such anecdotal, conclusory statements are not particularly helpful to a factfinder on whether the success of the claimed invention is reasonably connected to the claimed features of the invention. Thus, we find no error in the Examiner's assessment of the low weight to be given to the relied upon evidence.

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The Patent Owner's attempt to demonstrate commercial success based on Requester's sales data (\$1.5 billion over several years) of Titleist Pro V1 alone fails on similar grounds (FF 30). *In re DBC, LLC*, 545 F.3d 1373, 1384 (Fed. Cir. 2008) (a showing including sales figure alone is insufficient but rather it must establish that the commercial success is tied to the unique characteristics of the claimed invention).

While \$1.5 billion over several years may certainly be a significant amount, the Patent Owner failed to prove that the sales were not a result of other factors that have no relation to the claim limitations at issue (e.g., Requester's marketing and sales campaign, Requester's market power, increasing popularity of golf worldwide, Titleist brand name appeal, or the like). Indeed, the evidence indicates that the Requester contracted with professional golfers to market the product and also engaged in an aggressive advertisement campaign (FF 23, 28, 29). In view of these infirmities in the Patent Owner's proffered showing, we discern no error in the Examiner's assessment of the probative value of the relied upon evidence.

Finally, the Patent Owner relies on the anecdotal testimonies of Hebert and Morgan, who each praised Titleist Pro V1 or its prototype, as evidence of unexpected results (FF 31, 32). We, like the Examiner, find the relied upon evidence insufficient because it fails to include objective evidence (comparative experimental testing commensurate in scope with the claims), demonstrating unexpected results over the closest prior art, which is Nesbitt. *In re Baxter Travenol Labs*, 952 F.2d 388, 392 (Fed. Cir. 1991)

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("[R]esults must be shown to be unexpected compared with the closest prior art.").

On balance, after considering all of the Patent Owner's relied upon arguments and evidence, we find no error in the Examiner's conclusion that a person of ordinary skill in the art would have found the subject matter of claim 1 of the '293 Patent obvious within the meaning of 35 U.S.C. § 103(a).

Because our discussion above is dispositive as to all claims in all four reexamination appeals, we do not reach the other rejections on appeal.

#### DECISIONS

The Examiner's decisions to reject claims 4 and 5 of the '130 Patent, claims 1-6 of the '293 Patent, claims 1-22 of the '156 Patent, and claims 1-6 of the '873 Patent are affirmed.

The appeal as to claims 1-3 and 6 of the '130 Patent is withdrawn.

Requests for extensions of time in these *inter partes* reexaminations proceedings are governed by 37 C.F.R. § 1.956. *See* 37 C.F.R. § 41.79.

#### AFFIRMED

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